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Louisiana Energy Indicators

Center for Energy Studies
Louisiana State University

Fall 1988

TAXING NATURAL GAS

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Louisiana imposes a severance tax on natural gas severed within Louisiana's taxing jurisdiction equal to 7 cents per thousand cubic feet (MCF). Lower rates apply to specifically defined incapable wells. The volume tax on natural gas (cents per MCF) is in contrast to the 12.5 percent value tax on oil and condensate produced in the State.

Louisiana's volume tax on natural gas is also in contrast to the direct taxation of natural gas by other major gas producing states. Texas levies a 7.5 percent of wellhead value on natural gas. New Mexico utilizes a volume tax adjusted each year for inflation. Finally, Oklahoma imposes a 7 percent of wellhead value tax.

Louisiana has retained the MCF tax for several reasons. First, the federal regulation of interstate natural gas prices over the last forty years has created price discrepancies between in-state users and out-of-state users of Louisiana's natural gas. A value tax on natural gas would have penalized in-state natural gas users. Second, the tax should be on wellhead value, but natural gas is typically not bought or sold at the wellhead.

Wellhead value is a derivation of the selling price of the gas, less transmission charges, less any other processing charges incurred between its extraction and its commercial transfer. These transmission and processing charges can be difficult to verify without substantial auditing of the natural gas companies by the State. Hence, tax administration can be complicated.

Value Tax Preferred Method

A value tax on natural gas, however, is the preferred method of taxation among the other states, and **Louisiana, as it attempts to implement long-term amendments to its overall tax structure, should consider replacing the volume tax with a value tax.** Federal regulation of the natural gas markets has diminished significantly since the 1970's so price differentials among natural gas markets are based on non-regulatory factors. Artificial price discrepancies between in-state and out-of-state users of natural gas are diminishing, making this argument for a volume tax less relevant.

A volume tax suggests that the value of the resource never changes or that the State has no reason to share in the rising value of the resource. Natural gas is one of the State's resources that is being depleted. As a result, the State should recoup some of its permanent resource loss through the severance tax. The State should share in both the production of the resource and the value of that production.

Tax Burden

Even if the wellhead value of natural gas is the preferred tax base, the economic impact and administrative costs should be fully considered prior to any change. The economic impact centers around the issue: **Can a tax on natural gas be passed on to the final consumer?** The answer is, probably not. One state, such as Louisiana, does not now and never will control the price of natural gas. Louisiana producers are not price makers, but price takers. They can charge their customers what the global energy markets say is the going price. If they charge more, their customers will find alternative suppliers.

Louisiana's gas producers cannot hike their prices to end users. This is certainly the case in a depressed energy market, but also in the case of a more prosperous energy environment. Producers will always charge the highest price possible. A higher severance tax rate in a single state will not change the world price. If severance taxes cannot be passed forward to consumers, then they must be passed backward to producers, developers, explorers, or mineral owners. Contractual relationships link together the suppliers of energy resources.

In the long run, severance taxes will be shifted back to the owners of the mineral rights as much as possible. However, in the short run, contractual obligations between mineral owners, producers, and users will prevent an increase in the severance tax from being immediately shifted back to the landowner. The producer or the user will initially absorb the higher severance tax due to contractual commitments. However, changing from volume to value would not immediately mean more tax revenue for the state; although, over time, as the price of natural gas rises, the state would collect additional revenues. The long-term impacts on production and use of natural gas are minimized by the internal shifting of the tax burden to the least mobile resource owner. The

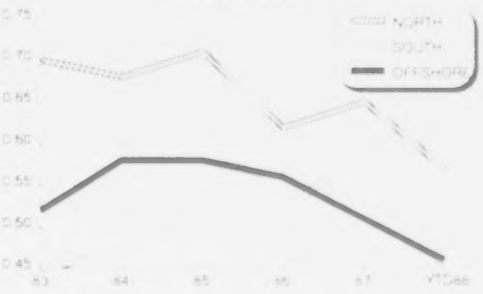
Continued on back page

Drilling

EXPLORATORY WELLS DRILLED

WELL COMPLETION SUCCESS RATIO

LOUISIANA



LA. RUNNING RIGS

Hughes Tool Co

Figures represent TOTAL
except when otherwise noted

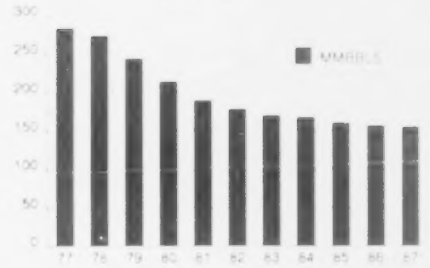
Totals may not add due to rounding

Indicator	1983	1984	1985	1986	1987	87.4	88.1	88.2	Jul	Aug	Sept	Year to Date Through Last Month Reported Sept 1987	Year to Date Through Last Month Reported Sept 1988	% Change
EXPLORATORY WELLS - LA.* (As reported)														
Oil	66	59	62	34	20	4	4	4	6	0	0	16	14	-12.5%
Gas	97	82	100	63	56	12	15	6	3	3	1	44	29	-34.1%
Dry	821	704	665	423	350	97	105	83	50	42	23	253	303	19.8%
DEVELOPMENTAL WELLS - LA.* (As reported)														
Oil	1950	2361	2712	1604	901	209	182	214	91	57	43	692	587	-15.2%
Gas	1011	992	1145	768	462	163	139	143	40	49	37	299	408	36.5%
Dry	1219	1453	1433	1000	666	199	207	207	78	67	64	467	623	33.4%
WELL COMPLETIONS - LA.* (As reported)														
North	2878	3667	4038	2209	1106	344	228	254	97	94	78	762	751	-1.4%
South	1193	1248	1325	1036	740	175	222	165	65	62	43	565	557	-1.4%
Offshore (Incl. fed. water)	1094	736	754	628	598	165	202	239	106	62	47	433	656	51.5%
WELL COMPLETIONS - SUCCESS RATIO														
North	69.5	68.1	70.5	62.1	64.6	62.4	56.3	59.9	61.9	56.4	48.7	65.3	57.3	-12.3%
South	45.1	47.2	52.8	51.7	58.7	62.0	53.7	49.6	52.3	51.6	55.8	57.6	52.2	-9.4%
Offshore (Incl. fed. water)	51.9	57.5	58.1	56.2	50.9	45.5	46.4	50.4	43.4	38.7	40.4	52.7	45.9	-12.9%
RUNNING RIGS (Avg. Hughes Tool)														
North	29	30	25	12	12	13	11	13	13	16	19	11	13	18.2%
South	128	147	129	63	59	73	74	65	59	55	49	54	65	20.4%
Offshore (Includes Fed. OCS)	125	132	129	69	65	83	90	90	92	84	79	59	88	49.2%
DRILLING PERMITS ISSUED														
Exploratory	645	702	599	298	284	93	56	65	21	16	22	191	180	-5.8%
Developmental	4849	6929	4811	1983	2148	584	388	511	137	145	160	1564	1341	-14.3%
Total	5494	7631	5410	2281	2432	677	444	576	158	161	182	1755	1521	-13.3%

*Source: Petroleum Information Corporation. CES maintains additional data in the Indicators Database.

Production

LA CRUDE OIL PRODUCTION



CRUDE OIL STOCKS

AVERAGE END OF MONTH

LOUISIANA ELECTRICITY GENERATION

BY FUEL TYPE - SEPT 1988

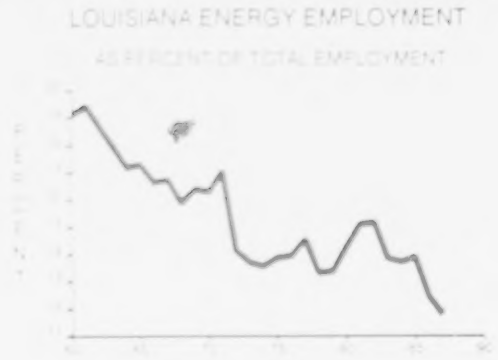
Figures represent TOTAL
except when otherwise noted

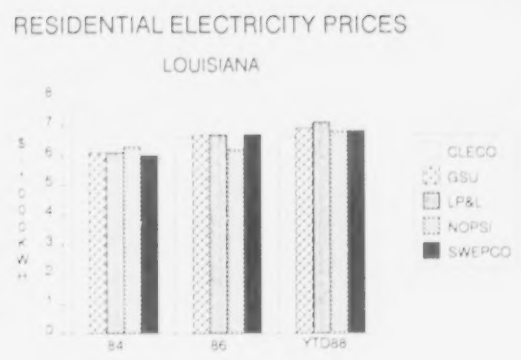
Totals may not add due to rounding

Indicator	1983	1984	1985	1986	1987	87.4	88.1	88.2	Jul	Aug	Sept	Year to Date Through Last Month Reported Sept 1987	Year to Date Through Last Month Reported Sept 1988	% Change
CRUDE OIL PRODUCTION - Lease Condensate Included (Avg. MBBLS/day)														
North	93.8	90.7	87.6	80.5	76.7	79.5	75.8	73.6	72.1	73.0	73.3	75.8	74.1	-2.2%
South	332.9	348.0	350.2	345.9	328.0	316.4	320.4	313.2	302.0	322.1	292.5	338.8	313.1	-7.6%
Offshore	67.7	74.2	70.0	71.4	66.6	60.9	70.6	70.1	69.1	65.8	53.5	68.4	67.8	-0.9%
Total	494.3	512.9	507.8	497.8	471.3	456.8	466.8	456.9	443.2	460.9	419.3	476.1	455.0	-4.4%
CRUDE OIL PRODUCING WELLS														
North	16299	17544	18792	19346	18630	18383	18106	18053	17926	17968	17601	18712	17997	-3.8%
South	6374	6241	6278	6117	5897	5861	5815	5711	5850	5764	5705	5909	5766	-2.4%
Offshore	1037	1030	996	1000	963	975	1003	976	971	948	951	959	978	2.0%
Total	23710	24815	26066	26463	25490	25219	24923	24740	24747	24680	24257	25580	24742	-3.3%
CRUDE OIL STOCK - E.O.M. Avg. (MMBBLS)	13.3	13.4	13.4	13.4	14.0	14.1	16.5	14.4	13.8	14.6	15.3	13.9	15.2	9.4%
COAL-LIGNITE PRODUCTION (Thousand Short Tons)	NC	NC	NC	2254	2774	668	706	808	222	233	250	2106	2211	5.0%
REFINERY RUNS (Avg.MBBLS/day)	1633.1	1746.0	1736.5	1901.5	1931.4	2038.3	2030.8	1804.0	1918.9	1941.6	1921.1	1895.7	1920.6	1.3%
ELECTRICITY GENERATED (GWH)*														
Gas	28311	29360	27735	26035	23823	5998	5110	6258	3205	3220	2334	17825	20127	12.9%
Coal	8377	9830	13968	15587	15101	4544	4565	4670	1503	1724	1676	10557	14138	33.9%
Oil	356	140	100	419	60	14	149	9	22	16	29	46	225	389.1%
Nuclear Power	0	0	2458	10638	12324	2126	3963	2591	1407	1361	1156	10198	10478	2.7%
Total	37044	39330	44261	52679	51308	12682	13788	13528	6137	6321	5194	38626	44967	16.4%
ELECTRICITY CONSUMPTION (GWH)*														
Residential	17371	18550	19176	19865	19802	3885	4379	6977	2357	2400	2220	15917	15675	-1.5%
Commercial	10008	10941	11576	12533	12650	2947	3128	3898	1281	1296	1321	9703	9896	2.0%
Industrial	23836	25900	24067	21202	23064	5961	5808	5914	1868	1987	2059	17103	17438	2.0%
Other	4072	4247	3993	3899	3610	750	756	858	272	266	320	2860	2318	-19.0%
Total	55287	59638	58812	57499	59126	13543	14071	17646	5778	5949	5919	45583	45326	-0.6%

*1GWH = 1 MILLION KWH
NC = Not Collected

Employment, Prices & Revenues





Figures represent TOTAL
except when otherwise noted

Totals may not add due to rounding

Indicator	1983	1984	1985	1986	1987	87.4	88.1	88.2	Jul	Aug	Sep	Year to Date Through Last Month Reported Sept 1987	Year to Date Through Last Month Reported Sept 1988	% Change
EMPLOYMENT (Thousands) - Avg.														
Oil & Gas Extraction (SIC13)	88.0	75.6	77.1	61.9	55.8	55.9	52.1	52.1	52.4	52.2	52.1	55.8	52.1	-6.6%
Chemicals & Allied Products (SIC28)	30.9	28.9	28.0	26.1	25.2	25.3	25.4	25.7	25.8	25.9	26.0	25.2	25.7	2.0%
Petroleum Refining (SIC29)	12.4	11.6	11.1	11.5	11.6	11.7	11.4	11.4	11.4	11.5	11.4	11.5	11.4	-0.9%
Total La. Employment	1657.0	1751.9	1744.2	1727.3	1728.7	1765.4	1673.3	1701.4	1738.5	1731.0	1736.8	1716.5	1703.4	-0.8%
OIL PRICES ($/BBL) - Avg.														
Wellhead														
LA	30.02	29.67	27.22	15.32	17.98	17.97	16.05	16.55	14.87	14.68	14.09	17.98	15.72	-12.6%
US	26.19	25.88	24.09	12.51	15.42	15.23	13.34	13.86	12.36	12.20	11.61	15.48	13.08	-15.5%
Spot (Avg. End of Week)														
W. Texas Int. - Cushing	NC	NC	NC	14.47**	18.80	18.81	16.69	16.88	16.30	15.20	13.35	19.24	16.17	-16.0%
Louisiana - St. James	NC	NC	NC	14.56**	10.51	19.16	16.96	16.82	16.44	15.45	13.27	17.59	16.26	-7.6%
RESIDENTIAL ELECTRICITY PRICES														
(Avg. $ at 1000 kwh)														
CLECO	7.4	7.6	7.3	6.6	6.8	6.6	6.3	6.7	6.5	6.6	6.7	6.9	6.6	-4.3%
GSU	6.2	6.1	7.6	6.7	6.8	7.3	6.6	7.1	6.8	7.0	6.9	6.6	6.9	4.5%
LP&L	5.7	6.1	5.9	6.7	7.0	6.6	7.2	7.4	7.5	7.3	7.5	7.0	7.1	1.4%
NOPSI	5.9	6.3	5.9	6.2	6.3	6.3	6.5	6.9	6.9	7.0	7.1	6.2	6.8	9.7%
SWEPCO	5.7	6.0	6.6	6.7	6.6	6.6	6.5	7.0	6.9	6.8	6.8	6.6	6.8	3.0%
COAL PRICES ($/Short Ton)														
(Avg.LA Elec.Util.Receipt Price)	38.83	37.40	37.06	29.21	26.81	26.67	25.07	24.30	26.98	24.96	26.61	26.86	25.18	-6.3%

NA = Not available from source
NC = Not collected
NR = Not reported
p = Preliminary
** 7 month average

Historical Presentation - Annual

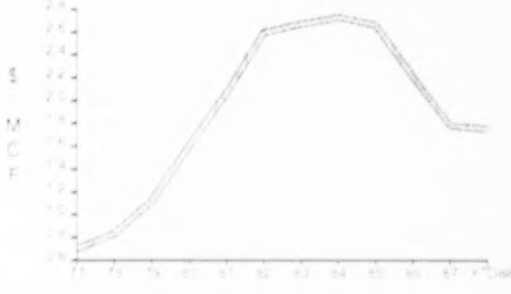
NATURAL GAS PRODUCTION

LA SEVERANCE TAX (NAT. GAS)

AS % OF TOTAL REVENUE

LOUISIANA WELLHEAD PRICE

NATURAL GAS



Figures represent TOTAL except when otherwise noted

Totals may not add due to rounding

Indicator	77	78	79	80	81	82	83	84	85	86	87	YTD88.3
PRINCIPAL ENERGY RELATED REVENUES (Millions $) (Calendar Year)												
Sev. - Oil & Condensate	262.1	264.5	276.6	427.9	815.3	776.8	664.1	653.5	598.3	390.3	345.6	242.8
Sev. - Natural Gas	207.2	196.1	187.0	162.0	164.2	147.5	132.7	131.3	121.1	126.1	112.7	81.1
Bonuses	28.0	105.6	110.1	118.4	141.6	59.3	47.0	68.0	32.1	15.9	25.5	9.1
Rentals	13.6	8.5	22.2	31.6	46.4	53.7	27.7	21.2	20.9	12.3	6.7	3.2
Royalties	165.1	170.1	194.4	252.6	414.7	482.7	444.9	436.1	379.1	304.5	253.8	125.9
Special Fuels Tax	17.3	20.1	22.2	22.9	24.7	25.5	27.1	41.1	52.3	57.6	55.2	43.2
Gasoline Tax	161.6	170.1	156.6	161.4	165.6	162.3	161.0	227.7	286.2	289.5	311.6	239.1
Nat. Gas Franchise Tax	4.6	4.9	4.8	6.3	7.8	9.6	12.5	11.7	11.0	10.9	9.3	7.4
Total Energy Revenues	860.9	941.4	975.4	1184.7	1782.3	1719.4	1519.5	1592.6	1502.9	1211.6	1126.4	554.8
TOTAL STATE REVENUES (Millions $)	1908.6	2265.2	2564.8	3046.9	3462.3	3969.3	3775.0	3785.2	4335.6	3913.2	3783.6	2156.3
ENERGY RELATED REVENUES AS % OF STATE TOTAL	45.1	41.6	38.0	38.9	51.5	43.3	40.3	42.1	34.7	31.0	29.8	25.7

Indicator	77	78	79	80	81	82	83	84	85	86	87	YTD88.3
GAS PRICES ($/MCF)-Avg. Wellhead												
LA	0.70	0.84	1.12	1.61	2.07	2.60	2.67	2.73	2.66	2.21	1.78	1.75*
US	0.79	0.91	1.18	1.59	1.98	2.46	2.59	2.66	2.51	1.94	1.67	1.70
NATURAL GAS PRODUCTION - Casinghead Included (Avg. MMCF/day)												
North	945.8	908.9	979.2	1007.3	1135.8	1032.5	997.3	1047.8	959.8	994.9	976.5	1012.0
South	6789.3	6235.5	5845.4	5275.3	4921.0	4195.5	3624.8	3758.8	3477.0	3303.0	3199.0	3199.0
Offshore	1325.9	1340.6	1309.4	1118.1	1025.7	984.0	870.6	830.7	696.2	675.1	624.7	626.2
Total	9024.4	8484.9	8134.0	7400.7	7082.5	6211.9	5492.6	5637.3	5132.9	4972.9	4800.2	4837.2
NATURAL GAS PRODUCING WELLS (Avg. #-EOY)												
North	6343	6917	7372	8360	9479	10154	10502	10812	11026	11049	10726	10800
South	1408	3244	3214	3277	3226	3136	3065	2955	2976	2698	2670	2557
Offshore	449	473	514	551	557	564	549	532	511	438	413	440
Total	8200	10634	11100	12188	13262	13854	14116	14299	14513	14185	13809	13797

Continued from front

short-term impacts on production and use are minimized by making a revenue neutral adjustment from volume to value.

Administration of a ValueTax

The administration of a natural gas value tax relates to the precise method of taxation. One method is to levy a flat rate, such as 4.5 percent on the value of natural gas at the wellhead. This procedure requires (1) identifying the selling price, and (2) estimating transmission, marketing, and processing costs.

While simple in concept, this procedure may prove complicated in practice. However, royalty payments to private mineral owners and the state are based on value at the wellhead and are calculated regularly. Therefore, companies do have experience with the value concept. Since the emergence of short-term contracts for natural gas, the spot market, and numerous broker transactions, states with a value tax have experienced complications in its collection procedures. The value method does impose certain administrative costs.

An alternative method to a value approach is to index the volume tax to a measure of the rate of change of the price of natural gas. The volume tax would rise from the current 7 cents per MCF to 8 or 9 cents depending on what is happening to the price of natural gas. Indexing depends on selecting a reliable and representative natural gas price or a reasonable proxy.

Indexing Prices

During the October Special Session, the Roemer Administration supported a natural gas index based on the producer price index for gas fuels. The price index is collected, tabulated, and reported by the U.S. Department of Labor, Bureau of Labor Statistics. Indexing requires the acceptance of at least two assumptions: (1) that all natural gas prices rise and fall in accordance with the index and (2) that the selected national index accurately portrays the natural gas markets in Louisiana. These assumptions are reasonable in an unregulated market; however, in a regulated market environment, the national index may not correlate closely with the Louisiana gas markets.

The advantage of indexing is that the tax is volume related, though the tax rate increases with the value of the resource. Indexation is now used in Florida but can work for large gas producing states as well.

Conclusion

The bottom line is that the state should tax natural gas on a value basis and in doing so should minimize impacts on: (1) short and long-term production and consumption activities and (2) administrative complications. By changing the tax to value, making it revenue-neutral in the initial stages, and utilizing an indexing of the tax rate as opposed to defining the wellhead value of natural gas as the tax base, the above can be accomplished.

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Louisiana Public Service Commission. (Mimeograph)
Electricity Data
Intrastate Natural Gas Prices

Petroleum Information Corporation (Unpublished data.)
Wells Completed
Wells Abandoned

CES is seeking appropriate articles for this publication. Contact Roberta Scull, (504) 388-4400.

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